FBF ITALIA

HIGH PRESSURE HOMOGENIZERS & PLUNGER PUMPS

COMPANY PROFILE





www.fbfitalia.it

English version

GETTING YOU RESULTS, **IS OUR GOAL.**













Year **1987**

FBF ITALIA is established in Parma. Thanks to the wide experience of the founders of the Company in this specific field, the first high pressure homogenizers are designed and manufactured.

Year **2000**

To ensure FBF ITALIA machines are at the forefront of the market, our R&D department, together with input from experienced technicians, develop the new ‘Millennium Series’, a line that has been an important reference for us and our customers.

Year **2010**

FBF ITALIA create a new line of machines; the “BUFFALO SERIES”, a turning-point and a revolution in the world of high pressure homogenizers. These machines use innovative technical solutions to combine quality, performance and energy saving in a perfect union.



FBF ITALIA *DESIGNS AND MANUFACTURES HOMOGENIZERS, PISTON-TYPE POSITIVE DISPLACEMENT PUMPS AND LABORATORY HOMOGENIZERS*

Thanks to its accumulated expertise in this sector, since 1987 FBF ITALIA has been a key point-of-reference for system manufacturers and end-users in the food, chemical and pharmaceutical fields.



Year **1987**

Our first homogenizer.

FBF ITALIA has a consolidated and ever-expanding presence, via its large sales and service network in Italy and throughout the world, which has generated consistent growth in production and sales figures.
One of the reasons behind this highly positive trend is unquestionably the special, direct relationship between the company's management and its customers, a relationship built on mutual evolution and innovation. The mission of FBF ITALIA is to offer customers not only excellent sales service, but also to continue this relationship with constant, direct post-sales technical assistance. Present in over forty countries around the globe, our agents and representatives are organised to give a quick response to all requests for sales and technical support. On-going innovation, exacting development of special materials, strict quality controls and endurance tests, allow us to guarantee maximum performance durability, reliability and safety.

FIELDS OF APPLICATION

DAIRY, FOOD PROCESSING AND ICE CREAM INDUSTRIES

Stability, uniformity, long shelf-life, digestibility, improved appearance, enhanced flavour. These are just some of the main benefits obtained using a homogenizer in the treatment of common food products. The results, both from a qualitative and economic standpoint, make the new technology offered by FBF ITALIA especially advantageous.













This is a list of just some of the applications in which homogenization may be utilized

- Additives
- Baby foods
- Spices
- Puddings
- Caseinates
- Fruit concentrates
- Tomato concentrate
- Cream cheese
- Cream for ice cream
- Desserts
- Milky liquids
- Gelatin
- Gum arabic
- Animal fats
- Vegetable fats
- Ketchup
- Eggs
- Yoghurt
- Milk
- Condensed milk
- Almond milk
- Rice milk
- Soy milk
- Milk for yoghurt
- Reconstituted milk
- Milk-based liquors
- Egg-based liquors
- Honey
- Butter oil
- Vegetable oils
- Cream - Clotted cream
- Milk proteins
- Sauces
- Syrups
- Tomato juice
- Fruit pulp and juices



COSMETIC, CHEMICAL, PHARMACEUTICAL AND PETROCHEMICAL INDUSTRIES

When used in the cosmetic industry, homogenization provides more stable, uniform emulsions with higher performance characteristics.

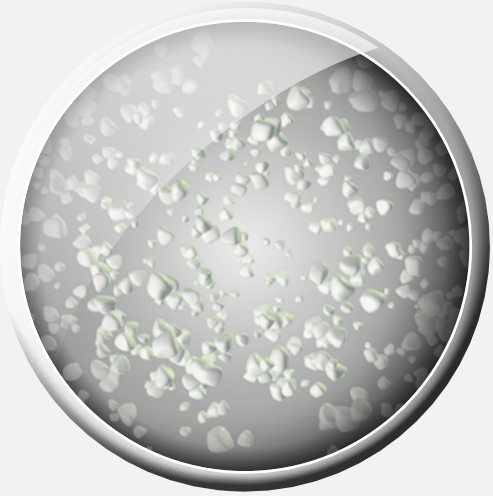
In the pharmaceutical industry, the primarily mechanical nature of the homogenization process provides direct access to enzymes, proteins, liposomes and intracellular active substances without having to utilize chemical lysis of the membrane. Other effects are seen in the preparation of stable solutions of products with different physical characteristics (proteins, creams, solutions of active principles, oils, vitamins). The increase in the surface area of the micronized particles is also of interest to the chemical and petrochemical industries because of the resulting enhancement of transformation reactions. This also creates further advantages, such as: noticeable reduction of catalysing substances, intensification of pigment colour, enhanced use and reduced quantity of additives, viscosity control of finished products. Crushing of active principle particles generates an increase in surface area, thus enhancing preparation assimilation.

Here is a list of some products from the cosmetic, chemical, pharmaceutical and petrochemical industries that may be homogenized

- Adhesives
- Starches
- Antibiotics
- Cellulose and derivatives
- Waxes
- Colorants
- Cosmetics
- Beauty creams
- Toothpaste
- Detergents
- Emulsifying disinfectants
- Emulsions
- Greases
- Inks
- Latex
- Liposome suspensions
- Lotions
- Shoe polish
- Emulsifiable oils
- Lubricating oils
- Pigments
- Perfumes
- Proteins
- Resins
- Soaps
- Syrups
- Paints
- Vitamins

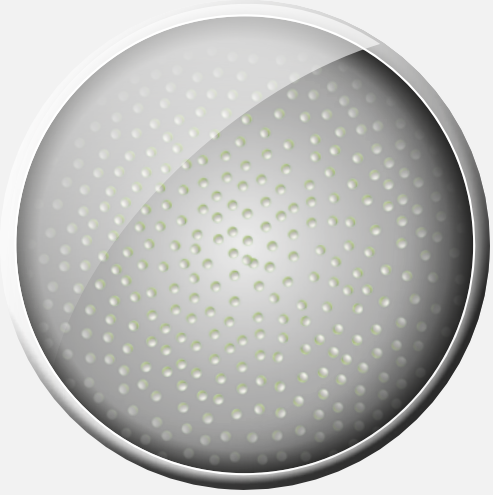
THE HOMOGENIZING PRINCIPLE

In order to permanently mix one or more substances in a liquid, a homogenizer must be used that makes it possible to micronize and disperse the suspended particles in the fluid, rendering it highly stable even during successive treatments and storage.



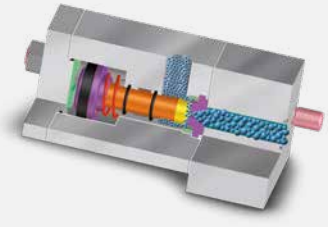
Non-homogenized product seen through a microscope.

The product reaches the homogenizing valve at low speed and at high pressure (the result of the small space between the passage head and the impact head). As it passes, it is subject to various forces that cause the mirconization of the particles: violent acceleration followed by immediate deceleration causes cavitation with explosion of the globules, intense turbulence together with high-frequency vibrations, impact deriving from the laminar passage between the homogenizing valve surfaces and consequent collision with the impact ring.



Homogenized product seen through a microscope.

Homogenization can occur with the use of a single homogenizing valve (suitable for dispersion treatment), or double valves (recommended for use with emulsions and for viscosity control when requested). To guarantee problem-free, precise functioning, the homogenizing valves are servoassisted from a special hydropneumatic unit.



Single phase homogenization phase valve



Double phase homogenization phase valve

BUFFALO SERIES HOMOGENIZERS



Buffalo Series homogenizers conform to CE standards and are available with output capacities ranging from 50 to 50,000 litres per hour, with homogenization pressures up to 2,000 bar.

Models choices include:

- Sanitary.
- Aseptic, for UHT installations.
- Two-stage homogenization.
- Standard, for processing products such as milk, yoghurt, cream, etc.
- Abrasive, for processing products such as fruit juices, ice cream, ketchup, etc.





OPTIONALS

Several options are available to fully customized machines for specific needs, including:

- Electrical system for operation at a fixed capacity.
- Electrical systems for duties requiring variable flowrates.
- Electrical system for use at two fixed capacities
- Partial automation of the machine for control either manually or by a control system.
- Pulsation compensators on the product inlet and outlet.
- Pressure transducer with digital display of homogenization pressure.
- Partial homogenization systems.
- Automatic homogenization pressure cutout, to protect the machine from in-feed errors.

PLUNGER PUMPS

PLUNGER PUMPS

FBF ITALIA plunger pumps are structurally very similar to the high-pressure homogenizers and manufactured to the same high quality standards.



From the outside, the positive displacement pumps differ from the homogenizers, because they lack the homogenization unit. The positive displacement pump range is too large to include a performance table here. Please contact our customer service department for further information.

PLUNGER PUMPS FOR PRODUCTS CONTAINING PARTICLES

These pumps are mainly used for the positive-displacement pumping of products that contain particles, such as pieces of tomato, vegetable or fruit. In soups, yoghurts, jams, etc... even in the presence of particularly high counter-pressures (typically 50 bar or higher).



The construction of the positive-displacement pumps is much the same as the homogenizers, except for the compression head which is equipped with special pneumatically controlled valve groups. These valves are equipped with actuators, which are controlled by an electronic angular positioner to assure perfect functioning of each valve. The angular positioner allows the opening and closing phases of each individual group of valves to be independently adjusted. The ability of the pump to operate at low speeds, combined with the specially designed passages in the pneumatic controlled valves, gives low velocities and very gentle handling; maintaining the specific characteristics of the most delicate of products.

LABORATORY HOMOGENIZER



LABORATORY HOMOGENIZERS

FBF Homolab is a laboratory homogenizer that can handle about 20 litres of product per hour, with homogenization pressures up to 1,500 bar.

The FBF ITALIA laboratory homogenizer is equipped with two plungers. This important feature results in far greater product stability and more reliable results than can be expected from single piston machines. Options include single and two-stage homogenization valves.
This makes it possible to closely replicate the same homogenization conditions in the laboratory, as can be expected in the real production process.

HOMOGENIZERS TABLE

Cap acity (l/h)	100 Bar Mod.	130 Bar Mod.	150 Bar Mod.	180 Bar Mod.	200 Bar Mod.	230 Bar Mod.	250 Bar Mod.	300 Bar Mod.	400 Bar Mod.	600 Bar Mod.
60	FBF1002	FBF1002	FBF1002	FBF1002	FBF1002	FBF1002	FBF1002	FBF1002	FBF1002	FBF1002
100	FBF1002	FBF1002	FBF1002	FBF1002	FBF1002	FBF1002	FBF1002	FBF1002	FBF1002	FBF2003
150	FBF1002	FBF1002	FBF1002	FBF1002	FBF1002	FBF1002	FBF1002	FBF1002	FBF2003	FBF2004
200	FBF1002	FBF1002	FBF1002	FBF1002	FBF1002	FBF1002	FBF2003	FBF2003	FBF2004	FBF3006
250	FBF1002	FBF1002	FBF1002	FBF1002	FBF2003	FBF2003	FBF2003	FBF2004	FBF3006	FBF3006
300	FBF1002	FBF1002	FBF1002	FBF2003	FBF2003	FBF2003	FBF2004	FBF2004	FBF3006	FBF3008
400	FBF2003	FBF2003	FBF2003	FBF2003	FBF2004	FBF2004	FBF3006	FBF3006	FBF3006	FBF3011
500	FBF2003	FBF2003	FBF2004	FBF2004	FBF3006	FBF3006	FBF3006	FBF3006	FBF3008	FBF3015
600	FBF2003	FBF2004	FBF2004	FBF3006	FBF3006	FBF3006	FBF3006	FBF3008	FBF3011	FBF3015
800	FBF3006	FBF3006	FBF3006	FBF3006	FBF3006	FBF3008	FBF3008	FBF3011	FBF3011	FBF5018
1.000	FBF3006	FBF3006	FBF3006	FBF3008	FBF3008	FBF3011	FBF3011	FBF3011	FBF3015	FBF5022
1.100	FBF3006	FBF3006	FBF3006	FBF3008	FBF3008	FBF3011	FBF3011	FBF3011	FBF3015	FBF5022
1.200	FBF3006	FBF3006	FBF3006	FBF3006	FBF3011	FBF3011	FBF3011	FBF3015	FBF4018	FBF5030
1.500	FBF3008	FBF3008	FBF3011	FBF3011	FBF3011	FBF3015	FBF3015	FBF4015	FBF5022	FBF6030
2.000	FBF3008	FBF3011	FBF3011	FBF3015	FBF3015	FBF4015	FBF4018	FBF4022	FBF5030	FBF6037
2.500	FBF4011	FBF4011	FBF4015	FBF4015	FBF4018	FBF4018	FBF5022	FBF5030	FBF6037	FBF7055
3.000	FBF4011	FBF4015	FBF4015	FBF4018	FBF4022	FBF5022	FBF5030	FBF5030	FBF6037	FBF7075
3.500	FBF4015	FBF4015	FBF4018	FBF4022	FBF5022	FBF5030	FBF5030	FBF6037	FBF7045	FBF8075
4.000	FBF4015	FBF4018	FBF4022	FBF5030	FBF5030	FBF5030	FBF6037	FBF6037	FBF7055	FBF8075
4.500	FBF4015	FBF4022	FBF5022	FBF5030	FBF5030	FBF6037	FBF6037	FBF6045	FBF7075	FBF8090
5.000	FBF4018	FBF5022	FBF5030	FBF5030	FBF6037	FBF6037	FBF6045	FBF7055	FBF7075	FBF8110
5.500	FBF4018	FBF5030	FBF5030	FBF6037	FBF6037	FBF6045	FBF6045	FBF7055	FBF8075	FBF8110
6.000	FBF4022	FBF5030	FBF5030	FBF6037	FBF6037	FBF6045	FBF7055	FBF7055	FBF8075	FBF9132
6.500	FBF6030	FBF6030	FBF6030	FBF6037	FBF6045	FBF7055	FBF7055	FBF7075	FBF8090	FBF9132
7.000	FBF6030	FBF6030	FBF6037	FBF6045	FBF6045	FBF7055	FBF7055	FBF7075	FBF8090	FBF9132
7.500	FBF6030	FBF6037	FBF6037	FBF6045	FBF7055	FBF7055	FBF7075	FBF7075	FBF8110	FBF9160
8.000	FBF6030	FBF6037	FBF6037	FBF7045	FBF7055	FBF7075	FBF7075	FBF7075	FBF8110	FBF9160
9.000	FBF6030	FBF6037	FBF6045	FBF7055	FBF7055	FBF7075	FBF7075	FBF8090	FBF9110	FBF0200
10.000	FBF6037	FBF6045	FBF7055	FBF7055	FBF7075	FBF7075	FBF8090	FBF8110	FBF9132	FBF0200
12.000	FBF7045	FBF7055	FBF7055	FBF7075	FBF7075	FBF8090	FBF8110	FBF8110	FBF9160	FBF0250
13.000	FBF7045	FBF7055	FBF7075	FBF8075	FBF8090	FBF8110	FBF8110	FBF9132	FBF0200	FBF0250
14.000	FBF7045	FBF7075	FBF7075	FBF8090	FBF8090	FBF8110	FBF8110	FBF9132	FBF0200	
15.000	FBF7055	FBF7075	FBF7075	FBF8090	FBF8110	FBF8110	FBF8132	FBF9160	FBF0200	
16.000	FBF7055	FBF7075	FBF8075	FBF8090	FBF8110	FBF8132	FBF9132	FBF9160	FBF0200	
18.000	FBF8075	FBF8075	FBF8090	FBF8110	FBF8110	FBF9132	FBF9160	FBF0200	FBF0250	
20.000	FBF8075	FBF8090	FBF8110	FBF8110*	FBF9132	FBF9160	FBF9160	FBF0200	FBF0250	
22.000	FBF8075	FBF8090	FBF8110	FBF9132	FBF9160	FBF9160	FBF0200	FBF0250		
24.000	FBF8090	FBF8110	FBF8110	FBF9132	FBF9160	FBF0200	FBF0200	FBF0250		
25.000	FBF8090	FBF8110	FBF9132	FBF9160	FBF9160	FBF0200	FBF0200	FBF0250		
26.000	FBF9090	FBF9110	FBF9132	FBF9160	FBF0160	FBF0200	FBF0200	FBF0250		
28.000	FBF9090	FBF9132	FBF9132	FBF0160	FBF0200	FBF0200	FBF0250			
30.000	FBF9110	FBF9132	FBF9160	FBF0200	FBF0200	FBF0250	FBF0250			
32.000	FBF9110	FBF9132	FBF9160	FBF0200	FBF0200	FBF0250	FBF0250			
34.000	FBF9110	FBF9160	FBF0160	FBF0200	FBF0250	FBF0250				
36.000	FBF9132	FBF9160	FBF0200	FBF0200	FBF0250					
40.000	FBF9132	FBF0160	FBF0200	FBF0250	FBF0250					
45.000	FBF0160	FBF0200	FBF0250	FBF0250						
50.000	FBF0160	FBF0200	FBF0250							
55.000	FBF0200	FBF0250								
60.000	FBF0200	FBF0250								

MODEL - MAIN MOTOR POWER

Mod.	kW	Mod.	kW	Mod.	kW	Mod.	kW	Mod.	kW
FBF1002	2,2	FBF4011	11,0	FBF6030	30,0	FBF8075	75,0	FBF9160	160,0
FBF2003	3,0	FBF4015	15,0	FBF6037	37,0	FBF8090	90,0	FBF0160	160,0
FBF2004	4,0	FBF4018	18,5	FBF6045	45,0	FBF8110	110,0	FBF0200	200,0
FBF3006	5,5	FBF4022	22,0	FBF7045	45,0	FBF8132	132,0	FBF0250	250,0
FBF3008	7,5	FBF5018	18,5	FBF7055	55,0	FBF9090	90,0		
FBF3011	11,0	FBF5022	22,0	FBF7075	75,0	FBF9110	110,0		
FBF3015	15,0	FBF5030	30,0	FBF7090	90,0	FBF9132	132,0		

For higher homogenization pressures please contact our engineering/sales service

ASSISTANCE & SALES CENTERS

- FBF do Brasil — Centro de Venda e Assistência
- FBF Thailand — Sales & Service Center
- FBF Andina — Centro Venta y Asistencia
- FBF Russia — Центр продаж и сервиса
- FBF Andina — Centro Venta y Asistencia
- FBF Lithuania — Pardavimų ir Serviso Centras
- FBF Deutschland — Vertriebs- und Servicecenter
- FBF India — Assistance & Service Center
- FBF Iberica — Centro Venta y Asistencia
- FBF Argentina — Centro venta y asistencia
- FBF Belarus — Центр продаж и сервиса
- FBF North America — Sales and Service Center

SALES & TECHNICAL SERVICE AGENCIES

- FBF Türkiye — Satış ve Teknik Servis Ajansları
- FBF România — Vânzări și agenții de servicii tehnice
- FBF Indonesia — Penjualan dan Teknis Badan Layanan
- FBF Mexico — Centro Venta y Asistencia
- FBF Andina — Centro Venta y Asistencia
- FBF U.K. — Sales and Technical Service Agencies
- FBF The Netherlands — Sales and Technical Service Agencies
- FBF South Africa — Sales and Technical Service Agencies

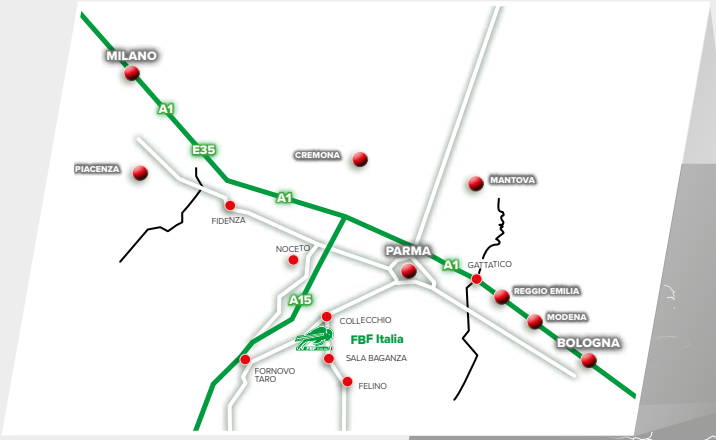


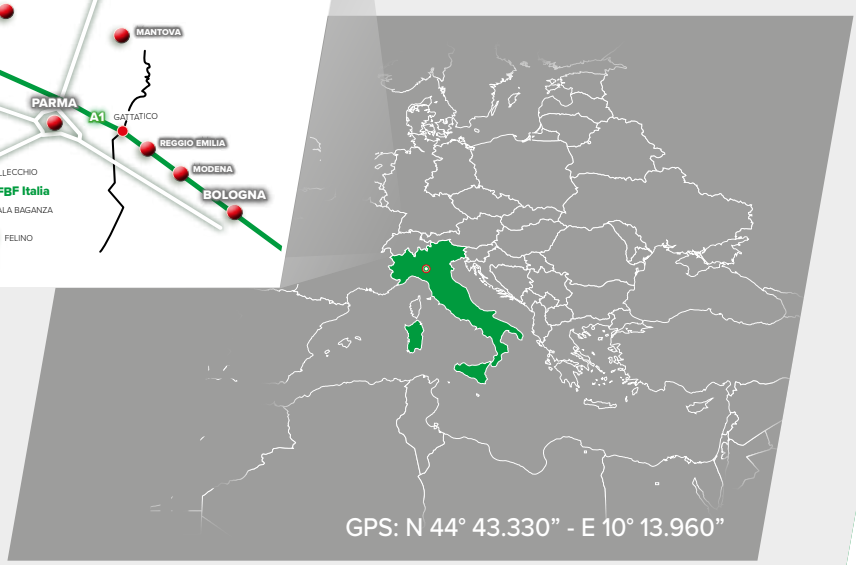


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HOW TO REACH US





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